anterior eye chamber from which they can innervate the iris of the host, and so permit easy inspection.

The two closing chapters describe the effects that grafts can exert on behaviour. Stephen Dunnnett, Anders Bjorklund and Ulf Stenevi provide a comprehensive overview of the effects of dopamine grafts in animals that have been depleted of dopamine in the nigrostriatal system. Animals subject to such treatment are thought to provide a good analogue for human Parkinson's disease. The grafts are made using either solid or suspension technique, they survive, make connections, and secrete dopamine into the host nervous system. Unilaterally depleted animals rotate vigorously in the direction opposite to the depleted hemisphere when given amphetamine, but the grafts function sufficiently well to block this abnormal rotation. When they are removed the abnormality reappears. The grafts also facilitate the execution of more normal orienting movements by the host animal and they reduce the abnormal movements produced by low doses of the dopamine agonist apomorphine. Finally, Robert Wallace describes the effects of grafts into the cerebellum and the lateral geniculate nuclei of juvenile host animals. His studies suggest that the grafts survive, become integrated into the host tissue and that they do not produce significant behavioural abnormalities.

IAN Q WHISHAW


This volume is based on a workshop held during the 1982 meeting of the Collegium Internationale Neuro-Psycho-pharmacologicum in Jerusalem.

Pain mechanisms always raise great interest, and spontaneous analgesia is known to occur in man during crises; for example, on the battlefield a severe injury does not appear so painful. However, the neurochemical, pharmacological and behavioural substrates underlying the endogenous pain inhibitory systems are only beginning to be understood. The interest in investigations of stress-induced analgesia is multiple. It provides a useful tool for studying environmental activation of endogenous analgesia systems. Although this form of analgesia is not clinically applicable there are parallels with the analgesic approaches used including anaesthesia and acupuncture.

As would be expected, this volume reviews the various line of evidence accumulated on stress-induced analgesia. The first chapters deal with the numerous systems involved in pain transmission and its subsequent control by endogenous mechanisms. This is accompanied by a comprehensive review of the different type of stressors that activate stress-induced analgesia, as well as the neurochemical, physiological and behavioural changes that occur after exposure to distinct stressful conditions. Electrophysiological experiments, described in a subsequent chapter, provide evidence of changes in noxious perception when another stimulus is introduced into the system (counter-irritation phenomena). Of considerable value are the chapters devoted to opioid and non-opioid stress analgesia (foot-shock), the influence of hormonal factors, and the dependance of the analgesia on different characteristics of the electrical stimulation, the region of the body receiving the noxious stimulation, and even the ability of the subject to control the stressful condition influence the analgesia observed. The authors of the book, in the last chapter, remark on the importance of experiment design in the study of stress-induced analgesia. Since previously much conflicting data have been reported, more rigid experiment design will undoubtedly lead to contributions in this field of research.

In summary, this is a book of interest not only for those directly involved with the different aspects of pain, but also for neurobiologists in general. Each chapter also contains a large number of up-to-date references forming a useful bibliography for the reader.

MARIA DE CEBALLOS


The Montreal Neurological Institute was founded 50 years ago and is known throughout the world for its leadership in the neurological sciences. Now a textbook of muscle pathology has appeared and promises to live up to its high standards.

Visitors to the Institute in the last decade or so would have met two doctors dedicated to myology, one a neurologist with considerable research experience, the other a neuropathologist, reflective, pain-taking and satisfied only by technical excel-

ence. The combination of clinician and pathologist is ideal for the study of muscle disease, in which assessment and diagnosis so rarely depend on histopathology alone. When two such specialists aided by technicians of long experience have worked together for 14 years and examined over 2000 muscle biopsy specimens, it is small wonder that the textbook they have written must be one of the best ever produced on muscle pathology. It avoids the pitfalls, contradictions and unevenness of style that can beset the multiauthor text. The authors describe and interpret almost entirely from experience. Many original observations are included.

The book is very well illustrated apart from a few small colour prints that have been reproduced inaccurately. Much use is made of semi-thin (1 µ) resin sections. So often this useful stage is omitted when optical and electron-microscopical pictures are compared. The usual muscle biopsy techniques are described, and it is noteworthy that they do not favour the needle biopsy technique for diagnosis with its limitations of specimen size, biopsy site and liability to error. Open biopsy sites are exclusively from the biceps, deltoid, quadriceps or gastrocnemius. Motor point biopsy is mentioned, but the authors like many others do not practice it and are thereby deprived in a small proportion of cases of the only definite evidence available of neurogenic disease. It also explains why their section on myasthenia gravis is cursory.

Muscle disorders are described in alphabetical order. This makes it easy to find a particular disorder, but the absence of grouping of similar conditions makes it difficult for the reader to get help when the diagnosis is uncertain. On the whole I prefer categorisation, even though that has its problems.

The criticisms mentioned are of little consequence when the book is examined. Expensive though it may be, the working myologist will want to have it at hand rather than be dependent on a library copy.

DGF HARRIMAN
Stress-Induced Analgesia

Maria De Ceballos

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